

on the solder ball land, and exposing a certain part of the lead wire by exposing and developing the resultant structure; a plating resist depositing step of depositing a plating resist on the exposed part of the lead wire; an electro-nickel/gold plating step of nickel plating the solder ball lands connected to the lead wire and the bump pad connected to the solder ball land, and performing a gold plating process; a second strip step of removing the solder mask and plating resist; and a second etching step of removing the copper foil from the lead wire which is not nickel/gold-plated, by performing an alkali copper etching process. (Emphasis added.)

Claim 1 recites that the second plating step (i.e., step (c)) is an electrolytic copper plating step using direct current to prepare a direct current plating layer that extends to the sidewalls of the hole in the resist pattern. Furthermore, the copper plated layer using direct current is juxtaposed on a pulse plated layer, which are all combined with the electroless copper plating layer to form a bump pad.

In contrast, the second copper plating step of Lee is for forming a lead wire to connect the circuit and the solder ball land. Thus, Lee does not copper plate over the solder ball land to form the bump pad. This is clear because prior to copper plating the lead wire, Lee only exposes the connection portion between the circuit and the solder ball land.

The second electrolytic copper plating step using direct current of Claim 1 results in a bump pad having a direct current copper plated layer juxtaposed on the pulse plated layer, which is juxtaposed on the electroless copper layer. The lead wire of Lee is not the same as a layer in a bump pad. Furthermore, to the extent that Lee describes formation of a bump on a bump pad, the first instance described by Lee of plating on the solder ball land is an electro-nickel/gold plating step of nickel plating the solder ball land, which is followed by a gold plating step.

Accordingly, Lee never describes the formation of a bump pad that includes a second copper layer.

The second copper plating step that is described by Lee is merely aimed at producing the connection between the solder ball land and the bump pad.

In contrast, Claim 1 recites providing a bump pad having an electroless copper plated layer juxtaposed on an insulating layer, a post-plated layer juxtaposed on the electroless copper plated layer, and a direct current copper plated layer juxtaposed on the post-plated layer, wherein the layers include forming the sidewalls of the bump pad.

Therefore, even if Lei is combined with Lee, there is no *prima facie* rejection because Lee fails to initially teach or suggest, at least, the second step of copper plating to form a copper layer of the bump pad.

Accordingly, the withdrawal of the rejection of Claims 1-6 is respectfully requested.

CONCLUSION

In view of the foregoing remarks, applicant submits that Claims 1-6 are in condition for allowance. If the Examiner has any further questions or comments, the Examiner may contact the applicant's attorney at the number provided below.

Respectfully submitted,

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